

A NEW SPECIES OF *ERIXESTUS*
(HYMENOPTERA: PTEROMALIDAE), AN EGG PARASITOID OF
CALLIGRAPHA POLYSPILA (COLEOPTERA: CHRYSOMELIDAE)
IN ARGENTINA

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Abstract.—*Erixestus pachyneuron* Grissell and De Santis, n. sp., is described from Argentina. This species was reared from eggs of *Calligrapha polyspila* (Germar) (Chrysomelidae) collected on *Sida rhombifolia* L. (Malvaceae). The genus *Erixestus* heretofore has been known only from the type species, *E. winnemana* Crawford, from the northeastern Nearctic, reared from eggs of *Calligrapha* spp. The two species of *Erixestus* are compared and the geographic range of *E. winnemana* is expanded westward to Idaho and New Mexico.

Since its description in 1910, the genus *Erixestus* has been represented by a single species distributed in the northeastern Nearctic (Burks, 1979). The genus was described for the species *winnemana* (Crawford, 1910), an internal parasitoid of eggs of the chrysomelid genus *Calligrapha*. Among New World pteromalids, *Erixestus* is unique as an internal egg parasite. Recent discovery of an undescribed species of *Erixestus* in Argentina, also an internal egg parasite of *Calligrapha*, suggests that the genus is both widespread and perhaps quite specialized in its biology. The large number of *Calligrapha* species (ca. 100) and their extensive geographic distribution throughout the New World (Blackwelder, 1944; Wilcox, 1972) suggest that *Erixestus* may be more widespread than present records indicate.

The new species of *Erixestus* described below was collected by H. A. Cordo (U.S. Department of Agriculture, Biological Control of Weeds Laboratory, Hurlingham, Argentina) in connection with studies of *Cal-*

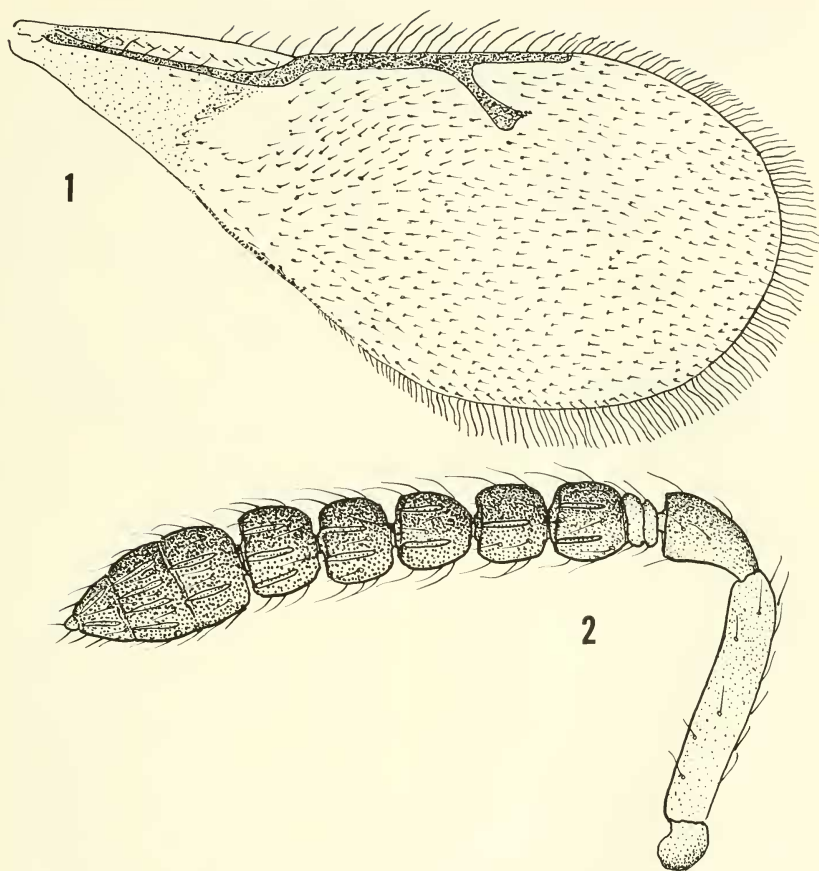
ligrapha polyspila (Germar) on *Sida rhombifolia* L. in Argentina. The chrysomelid is being studied as a possible biocontrol agent for *Sida spinosa* L. (Malvaceae), an introduced weed of southeastern United States.

Erixestus pachyneuron Grissell and
De Santis, NEW SPECIES

Figs. 1-4

Female.—Body length 0.9 to 1.2 mm. Black with faint blue or green reflections on the head. Abdomen brownish black. Scape, antenna, mouth parts, tegula, and legs (including coxae) pale yellowish white. Wings hyaline with yellowish veins. Body polished except occiput, anterior part of mesoscutum, scutellum, and axillae faintly alutaceous. Propodeum polished except nucha reticulate, medially with 3 complete longitudinal carinae intersected by transverse carina, partial longitudinal carinae present laterally.

Head and thorax with sparse, but obvious

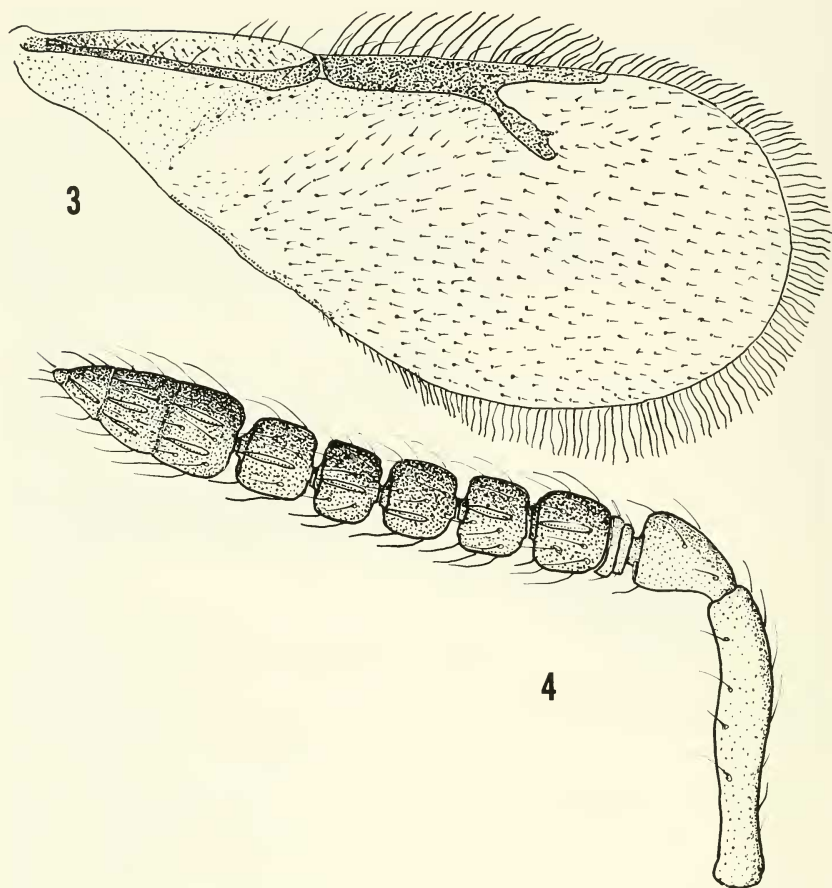


Figs. 1, 2. *Erixestus pachyneuron* (female). 1, Forewing. 2, Antenna.

setae (some $2\times$ or more as long as diameter of ocellus). Eyes glabrous. Midlobe of mesoscutum with irregularly placed long setae (ca. 8 to 16), sidelobes with 6 or 7, axillae each with 5 or 6, scutellum with 3 pairs. Hindcoxae and lateral regions of propodeum covered with long white setae.

Head as wide as thorax. Frontoververtex width greater than eye height. Clypeus with anterior edge bilobed, malar distance about as long as longitudinal diameter of an eye,

without genal suture. Ocelli in obtuse triangle, posterior ocellus at least $2\times$ own diameter from inner margin of eye. Dorsal edge of occiput rounded. Antennae inserted midway between median ocellus and free edge of clypeus; antennal proportions as shown in Fig. 2. Collar of pronotum with anterior edge vaguely carinate. Spiracle elliptic, anterior border obscured by metanotum which overhangs it. Wing with distribution of setae as in Fig. 1. Ratio of



Figs. 3, 4. *Erixestus pachyneuron* (male). 1, Forewing. 2, Antenna.

postmarginal : marginal veins $0.57 \pm \text{SD} = 0.05$ (range 0.53–0.64, $n = 10$), of stigmal : marginal veins 0.48 ± 0.03 (range 0.45–0.50, $n = 10$). Tibial spur ca. half length of basitarsus. Petiole of abdomen short (scarcely visible), much wider than long. Gaster oval, nearly as long as head and thorax together; first three terga subequal in length, remainder together shorter than T1.

Male.—Body length 0.7 to 1.1 mm. Sim-

ilar to female, except body with intense green to bronze reflections. Sculpture of head and thorax more strongly developed than that of female. Antennal club less thickened (Fig. 4). Forewing marginal vein much thickened (Fig. 3). Ratio of postmarginal : marginal veins 0.60 ± 0.05 (range 0.53–0.67, $n = 10$), for stigmal : marginal veins 0.44 ± 0.04 (range 0.38–0.55, $n = 10$).

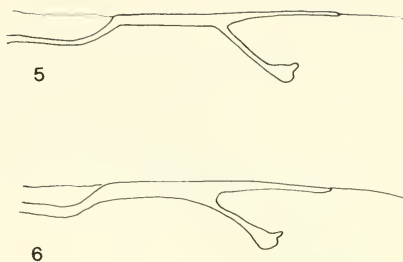
Type material.—Holotype ♀, allotype ♂,

32 ♂ and 23 ♀ paratypes from ARGENTINA, Buenos Aires Province, Dique Lujan, 10 February and 24 and 27 March 1976, H. A. Cordo, reared from egg mass of *Calligrapha polyspila* on *Sida rhombifolia*; 40 ♂, 50 ♀ paratypes from ARGENTINA, Entre Rios Province, 40 km S. Gualenguaychu, 4 January 1976, H. Cordo, reared from eggs of *Calligrapha* sp. The holotype, allotype, and 36 paratypes are deposited in the Museo de La Plata, La Plata, Argentina. One hundred and nine additional paratypes are deposited in the U.S. National Museum, Washington, D.C., the British Museum (Natural History), and the Canadian National Collection.

Variation.—Specimens of *Erixestus pachyneuron* vary little in size or coloration except that males are slightly smaller than females and are metallic blue or green rather than black. The abdomens of specimens preserved in alcohol tend to have a brown or yellowish cast.

Biology.—*Erixestus pachyneuron* has been reared from *Calligrapha polyspila* eggs on *Sida rhombifolia*. This species of *Sida* is widespread throughout the tropics (M. H. Sacht, Department of Botany, Smithsonian Institution, personal communication) and is associated with disturbed areas.

Discussion.—*Erixestus pachyneuron* may be distinguished from *E. winnemana* by the following characters: in both sexes of *pachyneuron* the postmarginal vein averages less than two-thirds the length of the marginal vein (0.59 ± 0.05 , $n = 20$), whereas in *winnemana* these veins (Figs. 5, 6) are nearly equal (0.97 ± 0.04 , $n = 20$); in both sexes of *pachyneuron* the stigmal vein averages less than one-half the marginal vein (0.45 ± 0.04 , $n = 20$), whereas in *winnemana* the stigmal vein averages two-thirds the marginal (0.66 ± 0.4 , $n = 20$); male *pachyneuron* have the marginal vein noticeably expanded throughout (cf. Fig. 3, *pachyneuron* with Fig. 6, *winnemana*); in both sexes of *pachyneuron* the antennae are white (dark brown to black in *winnemana*); in male



Figs. 5, 6. *Erixestus winnemana*, forewing venation. 5, Female. 6, Male.

pachyneuron the flagellomeres are quadrate to transverse with short setae (Fig. 4), whereas in *winnemana* each flagellomere is longer than wide with long setae (Fig. 7).

Erixestus winnemana Crawford, 1910

Figs. 5-7

Discussion.—This species was described from 10 specimens reared from eggs of *Calligrapha bigsbyana* (Kirby) (now *C. multipunctata bigsbyana*) and 12 specimens from *C. scalaris* (LeConte). All material was collected on Plummers Island, Maryland. At present there are a total of 16 syntypic specimens in the U.S. National Museum. As Crawford did not select a holotype at the time of description we herein designate and label a female as LECTOTYPE. The remaining 15 specimens are paralectotypes. Distinguishing characters of this species are discussed under *E. pachyneuron*.

Distribution.—This species is currently reported from Quebec, Maryland, and Virginia (Burks, 1979). We have examined specimens from the following states which are all new records: New York, Illinois, Pennsylvania (ex *Calligrapha spiraceae* (Say)), Michigan, North Dakota (ex *Calligrapha scalaris*), Kansas (ex *Calligrapha scalaris*), Wyoming (ex *Calligrapha* sp.), Idaho, and New Mexico.

Erixestus winnemana might be expected to occur wherever its hosts do: *Calligrapha scalaris* is reported from throughout eastern

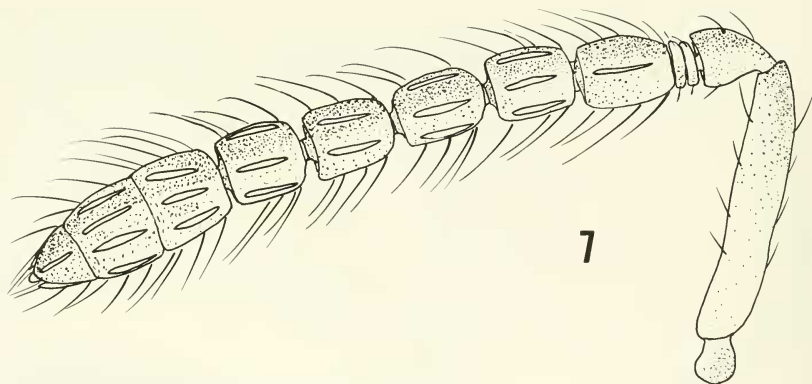


Fig. 7. *Erixestus winnemana* (male). Antenna.

United States and Canada from Quebec in the north to Georgia and Texas in the south; *C. multipunctata bigsbyana* occurs from Nova Scotia and British Columbia in the north, south to Oregon and Georgia; *C. spiraceae* occurs from Maine and Michigan south to Pennsylvania (Wilcox, 1972).

Biology.—This species is associated in the mid and eastern Nearctic with *Calligrapha* found on plants of northern hardwood forests: *Calligrapha scalaris* on *Ulmus*; *C. m. bigsbyana* on *Salix*, *Tilia*, and rarely *Populus*; and *C. spiraceae* on *Physocarpus* (Wilcox, 1972). Western specimens do not provide enough data from which to draw conclusions about host relations.

ACKNOWLEDGMENTS

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